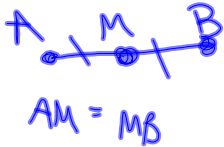


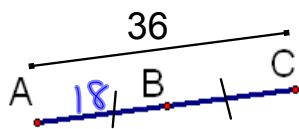
Ch 2 Segments and Angles

2-1 Segment Bisectors

midpoint--a point on a segment, that divides it into 2 congruent segments



Segment Bisector--a segment, ray, line, or plane, that intersects a segment at its midpoint

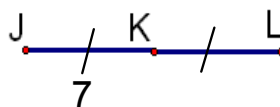


$$\underline{AB} = BC$$

$$AB = 18$$

$$BC = 18$$

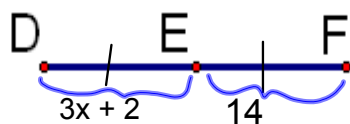
$$36 \div 2$$



$$JK = KL$$

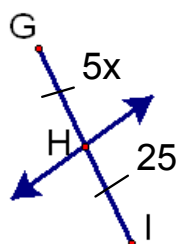
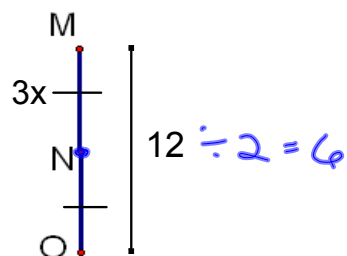
$$KL = 7$$

$$JL = 14$$



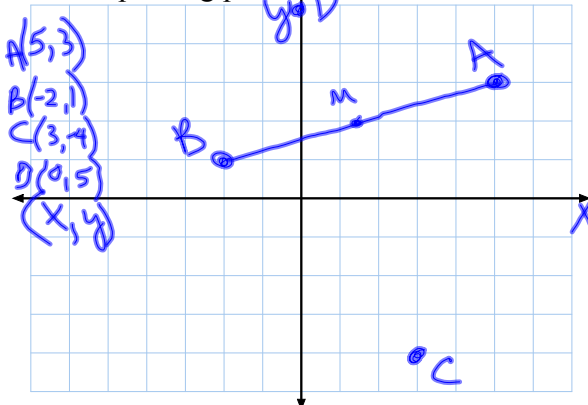
$$\begin{aligned} DE &= EF \\ 3x + 2 &= 14 \\ 3x &= 12 \\ x &= 4 \end{aligned}$$

$$\begin{aligned} 12 &= MO \\ MN &= NO \\ 3x &= 6 \end{aligned}$$



$$\begin{aligned} GH &= HI \\ 5x &= 25 \\ x &= 5 \end{aligned}$$

Practice plotting points



Midpoint Formula

$$M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

Find the midpoint of \overline{AB} .

A(5,3) B(-2,1)

$$M\left(\frac{5 + -2}{2}, \frac{3 + 1}{2}\right)$$
$$M\left(\frac{3}{2}, 2\right)$$

Find the midpoint of \overline{CD} .

C(-6,1) D(4,5)

$$M\left(\frac{-6 + 4}{2}, \frac{1 + 5}{2}\right)$$
$$M(-1, 3)$$

Find the midpoint of \overline{EF} .

E(-2,3) F(-4,5)

$$M\left(\frac{-2 + -4}{2}, \frac{3 + 5}{2}\right)$$
$$M(-3, 4)$$

Find the midpoint of the following:

1. (3,2) (7, 6) $M\left(\frac{3+7}{2}, \frac{2+6}{2}\right)$
 $M(5, 4)$

2. (4, -6) (8, 4)

$$\left(\frac{4+8}{2}, \frac{-6+4}{2}\right)$$
$$M(6, -1)$$

HW--p56-57 #s 2-10, 16-23, 26-32